NEW APPLICATION

ORIGINAL

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SOUTHWEST GAS CORPORATION

May 31, 2012

Docket Control Office
Arizona Corporation Commission
1200 West Washington Street
Phoenix, AZ 85007-2996

G-01551A-12-0218

Subject: EE & RET Portfolio Implementation Plan

Southwest Gas Corporation (Southwest) herewith submits for filing an original and thirteen (13) copies of its Application for approval of an Energy Efficiency and Renewable Energy Resource Technology Portfolio Implementation Plan.

Should you have any questions regarding this filing, please contact me at (702) 876-7163.

Respectfully submitted,

Debra S. Gallo by amb

Debra S. Gallo, Director
Government & State Regulatory Affairs

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
Gary Pierce, Chairman
Bob Stump
Sandra D. Kennedy
Paul Newman
Brenda Burns

In the Matter of the Application of Southwest Gas Corporation for Approval of an Energy Efficiency and Renewable Energy Resource Technology Portfolio Implementation Plan	DOCKET NO. G-01551A-12-_____ **APPLICATION**

APPLICATION

Introduction.

1. Southwest Gas Corporation hereby submits its application to the Arizona Corporation Commission ("Commission") requesting approval of its Arizona Energy Efficiency ("EE") and Renewable Energy Resource Technology ("RET") Portfolio Implementation Plan ("Year Two EE & RET Plan"), which was designed in accordance with the Gas Utility Energy Efficiency Standards ("Standards") set forth in Sections R14-2-2501 through R14-2-2520 of the Arizona Administrative Code ("A.A.C.").

2. Southwest Gas is a corporation in good standing under the laws of the state of Arizona, is a corporation duly organized, validly existing, and is qualified to transact intrastate business.

3. Southwest Gas' corporate offices are located at 5241 Spring Mountain Road, P.O. Box 98510, Las Vegas, Nevada 89193-8510. Communications regarding this application should be addressed to:

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4. Southwest Gas is a public utility subject to the jurisdiction of the Commission pursuant to Article XV of the Arizona Constitution and the applicable provisions of Title 40 of the Arizona Revised Statutes ("A.R.S."). Southwest Gas is engaged in the retail distribution, transportation, and sale of natural gas for domestic, commercial, agricultural, and industrial uses. Southwest Gas currently serves approximately 1.9 million customers in the states of Arizona, California, and Nevada. Approximately 54 percent of the Company's customers are located in the state of Arizona, including portions of Cochise, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pima, Pinal, and Yuma counties. For operational purposes, Southwest Gas' Central Arizona division is headquartered in Phoenix and its Southern Arizona division is headquartered in Tucson.

5. On or about September 13, 2011, Southwest Gas filed its initial EE & RET implementation plan (Docket No. G-01551A-11-0344). This plan was recently approved by the Commission on May 22, 2012.

6. Pursuant to A.A.C. R14-2-2501 *et seq.*, Southwest Gas hereby requests approval of its Year Two EE & RET Plan, a copy of which is attached hereto as Exhibit A. The Year Two EE & RET Plan consists of nine programs with an annual budget of

$14 million. These programs are designed to achieve approximately 4,787,689 therms or therm equivalents in energy savings during the first 12-months following Commission approval of this application.

7. In developing its Year Two EE & RET Plan, Southwest Gas reviewed various EE & RET programs offered by other utilities, along with its existing portfolio of energy efficiency programs. Southwest Gas submits that the proposed budget affords the Company a level of funding adequate to sustain the programs and allow the Company to achieve the goals set forth in the Standards.

8. Southwest Gas' Year Two EE & RET Plan is designed to provide benefits to all classes of customers in the Company's Arizona rate jurisdiction that participate in the Company's DSM rate adjuster. The Year Two EE & RET Plan is comprised of programs that afford Southwest Gas' customers, including its low-income customers, cost-effective opportunities and resources, education, and training tools, all of which are designed to promote energy efficiency and conservation, and will result in lower energy bills for customers. A list of the proposed Year Two EE & RET programs and measures, including budget levels, is included in the EE & RET Plan.

9. The Year Two EE & RET Plan also provides sufficient information to estimate the total cost and cost per therm reduction of each program and its respective measures. Each of the proposed programs set forth in the Year Two EE & RET Plan are cost-effective, as the incremental benefits exceed the incremental costs to society. Furthermore, as a portfolio, the programs have an overall benefit-cost ratio of 2.82, with targeted annual energy savings of 4,787,689 therms or therm equivalents.

10. The Company's current DSM rate adjuster was originally approved by the Commission as part of a settlement in Decision 60352. Under the current DSM rate adjuster, Southwest Gas files program costs and other data related to the calculation of its DSM adjuster rate in January of each year, and rates become

effective in the first billing cycle the following April. Southwest Gas hereby requests approval to continue using the DSM rate adjuster and the existing DSM rate adjuster process. In addition, Southwest Gas respectfully requests that upon Commission approval of its EE and RET Plan, all existing reporting requirements be superseded by the reporting requirements enumerated in the preliminary Standards.

11. Southwest Gas submits that the Year Two EE & RET Plan is consistent with the Standards.

Conclusion

12. Based upon the foregoing, Southwest Gas respectfully requests that the Commission approve the Company's proposed Year Two EE & RET Plan, as well as for any other relief the Commission deems just and reasonable.

Dated this 31st day of May 2012.

Respectfully submitted,

SOUTHWEST GAS CORPORATION

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Exhibit A

SOUTHWEST GAS CORPORATION

ARIZONA ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCE TECHNOLOGY PORTFOLIO IMPLEMENTATION PLAN

June 1, 2012

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ARIZONA ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCE TECHNOLOGY PORTFOLIO IMPLEMENTATION PLAN OVERVIEW

INTRODUCTION

Southwest Gas Corporation's (Southwest Gas or Company) Energy Efficiency (EE) and Renewable Energy Resource Technology (RET) portfolio for the second implementation plan year (EE & RET Plan) consists of nine programs designed to achieve cost-effective natural gas savings, and increase customer awareness and the use of energy-efficient and renewable energy practices and new technologies. Consistent with the gas energy efficiency standards (Gas EE Standard) set forth in R14-2-2501 et seq., the EE & RET Plan will serve to benefit Southwest Gas' residential, non-residential and low-income customers in Arizona.

Southwest Gas believes the EE & RET Plan will advance market transformation and achieve sustainable savings, reducing the need for future market interventions. The EE & RET Plan is comprised of the following programs and targets the residential, non-residential and low-income market sectors:

Residential Energy Management Programs

1. *Smarter Greener Better* Residential Rebates
2. *Smarter Greener Better* Homes
3. *Smarter Greener Better* Residential Energy Assessments (Pilot)

Non-Residential Energy Management Programs

4. *Smarter Greener Better* Commercial Rebates
5. *Smarter Greener Better* Custom Commercial Rebates
6. *Smarter Greener Better* Distributed Generation

Low-Income Program

7. *Smarter Greener Better* Low-Income Energy Conservation

Educational Program

8. *Smarter Greener Better* Energy Education (Pilot)

Renewable Energy Resource Technology Program

9. *Smarter Greener Better* Solar Thermal Rebates

The EE & RET Plan includes detailed program descriptions of the nine individual programs including: program rationale and objectives, targeted market sector, level of customer participation, customer eligibility, measure specifications, proposed rebate levels, program budgets, societal benefits and savings, societal costs, environmental benefits, and cost-effectiveness.

The Company's EE and RET programs are designed to influence energy decisions by residential, non-residential and low-income customers through a combination of education, training, financial incentives, and technical assistance. The EE & RET Plan is expected to produce long-term energy savings, monetary savings for customers, and positive environmental impacts.

The Company's EE & RET Plan also results in energy savings and emissions reductions through energy-efficient products, services and/or practices. Overall energy savings include savings attributable to the reduction of natural gas, electricity and water usage. Southwest Gas has participated in, and plans to continue discussions with Arizona Public Service (APS), Tucson Electric Power (TEP), and Salt River Project (SRP), focusing on the potential for future collaborative efforts regarding EE and RET programs.

In comparison to Southwest Gas' initial EE & RET Plan, the following high-level changes have been made to this EE & RET Plan for year two:

- Moved the weatherization measures from the *Smarter Greener Better*® Residential Rebates program to the *Smarter Greener Better* Residential Energy Assessments program
- Restructured the *Smarter Greener Better* Homes program to offer tiered rebates based on each home's rating instead of by measure
- Removed the *Smarter Greener Better* Business Energy Assessments program
- Increased administrative dollars for the Bill Assistance component under the *Smarter Greener* Better Low-Income Energy Conservation program
- Replaced the print, radio and Residential Conservation Behavior program components with a school energy efficiency kit program under the *Smarter Greener Better* Energy Education program

The Company plans to implement its new EE & RET Plan within 60 days of approval by the Commission.

EE & RET Plan Savings, Benefits and Costs

Southwest Gas utilizes a cost-effectiveness model to determine the societal cost, as well as the societal and environmental benefits of each program. Table 1 details the energy savings, monetary savings, societal benefits and cost-effectiveness ratios for each program in Southwest Gas' EE & RET Plan.

Southwest Gas has gathered applicable electric savings data by kilowatt hour (kWh) for measures and programs administered by the Company, which is further detailed in the individual program sections. The kWh savings are combined with the natural gas therm savings as therm equivalents for the total lifetime and annual energy savings reported. The therm equivalent value is calculated as the source fuel feeding the electric power plant. Through the efficiency of the power plant and transmission and distribution line losses, the kWh saved at the point of consumption is an estimated 30 percent of the total energy that is required to provide the electric power. Therefore, to calculate the total value of energy that is saved per kWh of electricity, Southwest Gas has multiplied the kWh savings by a factor of 3.340[1] for the cost-effectiveness tests.

[1]ENERGY STAR Performance Ratings Methodology for Incorporating Source Energy Use, March 2011

Table 1 – EE & RET Plan Annual and Lifetime Therm Savings; Lifetime Societal Benefits, Costs and Net Benefits; and Cost-Effectiveness

Residential						
Residential Rebates	404,760	6,688,020	$ 4,349,718	$ 3,915,045	$ 434,673	1.11
Homes	1,753,301	52,599,031	$ 37,659,456	$ 6,800,000	$ 30,859,456	5.54
Residential Energy Assessments	293,151	7,446,195	$ 5,777,335	$ 5,354,680	$ 422,655	1.08
Total Residential	*2,451,212*	*66,733,246*	*$ 47,786,509*	*$16,069,725*	*$ 31,716,784*	*2.97*
Non-Residential						
Commercial Rebates	859,552	15,440,597	$ 10,143,300	$ 3,556,380	$ 6,586,920	2.85
Custom Commercial Rebates	404,085	6,465,360	$ 4,156,562	$ 546,733	$ 3,609,830	7.60
Distributed Generation	492,260	9,845,200	$ 6,541,161	$ 3,080,000	$ 3,461,161	2.12
Total Non-Residential	*1,755,897*	*31,751,157*	*$ 20,841,023*	*$ 7,183,113*	*$ 13,657,911*	*2.90*
Low-Income						
Low-Income Energy Conservation[2]	103,480	2,328,301	$ 1,923,908	$ 742,120	$ 1,181,788	2.59
Education						
Energy Education	157,500	1,575,000	$ 964,398	$ 550,000	$ 414,398	1.75
Total Energy Efficiency	*4,468,089*	*102,387,703*	*$ 71,515,838*	*$24,544,958*	*$ 46,970,880*	*2.91*
Renewable Energy Resource Technology						
Solar Thermal Rebates	319,600	6,392,000	$ 4,246,851	$ 2,307,000	$ 1,939,851	N/A[3]
Total EE & RET Plan	**4,787,689**	**108,779,703**	**$ 75,762,689**	**$26,851,958**	**$ 48,910,732**	**2.82**

[1] These values represent a combination of therms and therm equivalents from electric savings.
[2] The Annual and Lifetime Therm Savings; Lifetime Societal Benefits, Costs and Net Benefits; and Cost-Effectiveness for the Low-Income Energy Conservation program includes estimated savings for the additional $200,000 shareholder funds added to the program budget per Decision No. 72723. Low-Income Bill Assistance is not included in this Table because there are no therm savings attributable to the program.
[3] Pursuant to the Gas EE Standard, cost-effectiveness is not required for RET programs.

The EE & RET Plan is targeted to result in annual energy savings of 4,787,689[2] therms (including therm equivalents). The total energy savings attributed to

[2] Using Southwest Gas' 2011 Arizona retail sales of 634,605,252 therms, the Company's total second-year cumulative energy savings goal of 1.2 percent is 7,615,263 therms. The Company's initial EE & RET Plan is targeted to save an annual 3,310,267 therms.

energy efficiency programs consists of 4,468,089[3] therms. This savings exceeds the second-year goal of achieving energy savings of up to 0.9 percent from energy efficiency programs, as set forth in the Commission's Gas EE Standard. The Company's RET program, which is targeted to save an additional 319,600 therms, coupled with Southwest Gas' efforts to support the adoption and implementation of the energy efficiency building codes and the Company's involvement in the placement of non-Company sponsored RET projects that displace gas, are expected to contribute to additional savings beyond the total second-year cumulative energy savings goal of 1.2 percent.

Program Baseline

Southwest Gas' EE & RET Plan encourages energy efficiency improvements. The baseline system is the applicable code or federal minimum efficiency standards, if such standards apply. In cases where standards do not exist, the baseline is based upon standard industry practice.

Southwest Gas may adjust baseline natural gas consumption and costs to reflect any of the following: energy codes, standard practice, changes in capacity, equipment operation, changes in production or facility use, and equipment at the end of its useful life.

EE & RET Plan Annual Budget

Southwest Gas proposes an annual budget of $14 million for the second implementation plan year. The proposed budget maximizes the amount of program funds going directly to customers through education, training, financial incentives and technical assistance. The budget also takes into account the realities of program start-up costs and the administrative oversight needed to plan, develop, deliver and evaluate the programs. Once the EE & RET Plan is implemented, rebate levels and other program elements will be reviewed and modified as needed to maximize program participation and energy savings to customers.

The budget for the EE & RET Plan applies to the nine aforementioned programs. Within each program description, Southwest Gas provides an estimated budget apportioning the dollars between five categories: rebates, administration, outreach, delivery, and measurement, verification, and evaluation (MV&E). However, since Southwest Gas intends to utilize program funding where demand is highest, it provides the apportioned budgets only as an approximation.

[3] Using Southwest Gas' 2011 retail sales of 634,605,252 therms, the Company's total second-year cumulative energy savings goal of at least 0.9 percent from energy efficiency programs is 5,711,447 therms. The Company's initial EE & RET Plan is targeted to save 3,202,717 therms annually from energy efficiency programs.

Table 2 below provides a summary of the estimated budgets for each program for the second implementation plan year.

Table 2 – EE & RET Plan Annual Estimated Budget

Residential						
Residential Rebates	$ 2,388,455	$ 20,000	$ 70,000	$ 546,545	$ 25,000	$ 3,050,000
Homes	$ 1,800,000	$ 25,000	$ 200,000	$ 450,000	$ 25,000	$ 2,500,000
Residential Energy Assessments	$ 1,709,200	$ 50,000	$ 65,000	$ 715,800	$ 60,000	$ 2,600,000
Total Residential	*$ 5,897,655*	*$ 95,000*	*$ 335,000*	*$1,712,345*	*$ 110,000*	*$ 8,150,000*
Non-Residential						
Commercial Rebates	$ 1,327,000	$ 90,000	$ 243,000	$ 550,000	$ 90,000	$ 2,300,000
Custom Commercial Rebates	$ 162,000	$ 10,000	$ 68,000	$ 100,000	$ 10,000	$ 350,000
Distributed Generation	$ 640,000	$ 36,000	$ 144,000	$ 144,000	$ 36,000	$ 1,000,000
Total Non-Residential	*$ 2,129,000*	*$ 136,000*	*$ 455,000*	*$ 794,000*	*$ 136,000*	*$ 3,650,000*
Low-Income						
Low-Income Energy Conservation[1]	$ -	$ -	$ -	$ -	$ -	$ 450,000
Low-Income Bill Assistance[2]	$ -	$ -	$ -	$ -	$ -	$ 200,000
Total Low-Income	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ 650,000*
Education						
Energy Education	$ -	$ 55,000	$ 16,500	$ 462,000	$ 16,500	$ 550,000
Total Energy Efficiency	*$ 8,026,655*	*$ 286,000*	*$ 806,500*	*$2,968,345*	*$ 262,500*	*$13,000,000*
Renewable Energy Resource Technology						
Solar Thermal Rebates	$ 594,000	$ 15,000	$ 152,000	$ 196,000	$ 43,000	$ 1,000,000
Total EE & RET Plan	**$ 8,620,655**	**$ 301,000**	**$ 958,500**	**$3,164,345**	**$ 305,500**	**$14,000,000**

[1] Low-Income Energy Conservation does not adhere to the above budget categories since it is not a rebate program. Per Decision No. 72723, Southwest Gas has augmented the $450,000 annual budget shown above with an additional $200,000 funded by shareholders. The $200,000 shareholder funds will be added for each of the next five years, totaling $1,000,000. Program budget specifics may be found in the program description on page 49.

[2] Low-Income Bill Assistance does not adhere to the above budget categories since it is not a rebate program.

The budget categories are explained in detail below:

Rebates: Includes any capital equipment rebates and technical services provided.

Administration: Includes internal administrative costs such as regulatory filings and reports, database software, contract administration, and third-party contractor oversight.

Outreach: Includes all marketing and advertising costs related to: workshops, events, brochures (design and printing), retail store signage, print ads and web banners, sponsorships, and trade ally recruitment.

Delivery: Includes rebate processing, forms design and creation, due-diligence program limitation reviews, pre-rebate payment field or phone inspections, and retailer training.

Measurement, Verification and Evaluation: Includes post-installation inspections performed by an independent third-party. Such inspections are not associated with normal due-diligence and program delivery, and instead serve as impact evaluations.

In order to ensure funding for actual program costs, Southwest Gas requests flexibility to transfer funds between the budget categories within each program, and between the programs within each customer class.

Southwest Gas anticipates varying levels of participation for individual program measures. Consistent with the Gas EE Standard, cost-effectiveness was considered at the portfolio and program levels. Southwest Gas requests flexibility to utilize program funding for measures in which customers express the most interest. This flexibility will be limited to each individual program budget, but will enable Southwest Gas to maximize energy efficiency benefits for customers by permitting Southwest Gas to reallocate funding to those measures where customers are most responsive. Actual program costs will be tracked and reported within each individual program budget.

Cost Recovery of EE & RET Plan

Pursuant to Sections R14-2-2505(B)(5) and R14-2-2506(C) of the Gas EE Standard, Southwest Gas requests that the Commission allow the Company to continue to utilize its current Demand-Side Management (DSM) rate adjuster to recover the costs associated with its EE and RET programs detailed in this implementation plan. Under its current DSM rate adjuster, Southwest Gas files an application in January of each year with its program costs and other data supporting the calculation of its adjustment rate per therm, to become effective with the first billing cycle the following April. Southwest Gas intends to continue the current filing and adjustment process. An estimated calculation of the applicable DSM rate adjuster is provided in Table 3 below.

Table 3 – Illustrative Cost Recovery of EE & RET Plan Costs

$14,000,000	634,605,252	$0.022/therm[1]

[1] For illustrative purposes only. Excludes the effect of over- or under-recoveries in Southwest Gas' existing DSM rate adjuster balancing account. Per Commission Decision No. 72723, the DSM surcharge rate applicable to Southwest's low-income customer rate schedules will not be increased above $0.00200 per therm.

Summary of Programs

In developing its EE & RET Plan, Southwest Gas considered programs for which energy savings could be demonstrated using industry standards, and assessed each program based on technical feasibility and estimated costs.

The EE & RET Plan will be implemented through both internal and external resources. This approach enables the Company to utilize internal resources whenever possible and to rely on external resources only when necessary. In all cases, Southwest Gas will retain responsibility for program administration and reporting activities. Below is a brief overview of each proposed program.

Smarter Greener Better Residential Rebates: Rebates will be offered to residential customers on qualified program measures upon proof-of-purchase and installation. The measures include: ENERGY STAR® condensing and tankless water heating measures, ENERGY STAR boilers, high efficiency natural gas clothes dryers, smart low-flow showerheads, and WaterSense® lavatory faucets. To reduce program administrative and delivery costs and improve program and measure level cost-effectiveness, Southwest Gas has transferred the weatherization measures to the *Smarter Greener Better* Residential Energy Assessments program due to lower inspection costs resulting from partnerships with the electric utilities.

Smarter Greener Better Homes: Rebates will be offered to home builders who build ENERGY STAR certified homes. The program will be available to all

builders of new single-family subdivision and custom homes and multi-family homes featuring natural gas water and/or space heating.

Smarter Greener Better Residential Energy Assessments (Pilot): Southwest Gas proposes a joint residential energy assessment (energy audit) program with APS and SRP. The program promotes a whole house approach to energy efficiency by offering direct installations and prescriptive incentives for improvements to the building envelope of existing residential homes. It includes measures to improve the energy efficiency of the home such as attic and floor insulation, faucet aerators for the lavatory and kitchen, and smart low-flow showerheads. The program will provide Southwest Gas' customers with referrals to contractors who meet strict program requirements for professional standards, technician training, and customer satisfaction.

Smarter Greener Better Commercial Rebates: Rebates will be offered to non-residential customers on qualified program measures upon proof-of-purchase and installation. The measures include: high efficiency space and water heating units (including boilers) and a full suite of commercial kitchen high efficiency products (including dishwashers, natural gas fryers, griddles, steamers, conveyor, and convection and combination ovens).

Smarter Greener Better Custom Commercial Rebates: Rebates will be offered to non-residential customers based on achieved annual energy savings. The program does not specify eligible measures in order to provide participants maximum flexibility in identifying potential projects. Participants may propose any measure that produces a verifiable natural gas usage reduction, is installed in either existing or new construction applications, has a minimum useful life of seven years and exceeds minimum cost-effectiveness requirements. Qualifying measures include those that target cost-effective natural gas savings, such as retrofits of existing systems, improvements to existing systems and first time installations where the system's efficiency exceeds applicable codes or standard industry practice.

Smarter Greener Better Distributed Generation: The program provides rebates to non-residential customers to achieve significant fuel savings by promoting high efficiency electric generation, providing financial benefits during peak electrical demand periods, and demonstrating the use of new natural gas technologies that are being brought to market. The rebates are based upon the size and efficiency of the system being installed and range from $400 to $500 per kW.

Smarter Greener Better Low-Income Energy Conservation: The Low-Income Energy Conservation (LIEC) program is comprised of two components: one provides energy-efficient home improvements such as increased insulation, duct repairs, weatherstripping, caulking, etc., otherwise referred to as weatherization; and the other provides emergency assistance to help pay household natural gas bills. The program will be available to households with annual incomes less than 150 percent of the federal poverty income guidelines, and will be administered by

Southwest Gas in conjunction with the Arizona Governor's Office on Energy Policy (OEP) and Arizona Community Action Agency (ACAA).

Smarter Greener Better Energy Education (Pilot): The Energy Education program will provide students and teachers at selected schools within the Company's service territories with a take home energy efficiency kit and learning activities related to the efficient use of energy, along with information on Southwest Gas' other energy efficiency programs. The take home energy efficiency kits will each include a low-flow showerhead, kitchen sink aerator, a bathroom sink aerator and other energy efficiency devices and materials. The program is designed to educate customers on energy efficiency through students and their teachers and to also generate energy savings through the installation of devices included in the energy efficiency kits.

Smarter Greener Better Solar Thermal Rebates: Rebates will be offered to residential and non-residential customers on qualified solar thermal systems, used for water heating or pool heating, upon proof-of-purchase and installation. The program objective is to increase public awareness of the benefits of solar thermal systems and to reduce customer natural gas usage by providing economically beneficial rebates to install the systems. Long-term customer energy savings will be realized throughout the life of the solar thermal systems.

To be eligible for participation in any of Southwest Gas' EE and RET programs, all new and existing residential, non-residential and low-income customers must have active Southwest Gas accounts, and residences and facilities must be located within Southwest Gas' Arizona service territory. In addition, customers must also contribute towards the funding of these programs through the DSM rate adjuster.

Marketing and Delivery Strategies (Outreach)

To maximize program participation, Southwest Gas' marketing and delivery (i.e. outreach) campaign will focus on making customers and trade allies aware of the benefits of EE products and RET. Southwest Gas plans to integrate information about its programs into a wide range of communications and outreach efforts. Outreach strategies may include:

- On-line program information placed on the Southwest Gas website (www.swgas.com).
- Notification of program information and availability in Company newsletters and bill inserts (when applicable).
- Cross-marketing with other Southwest Gas energy efficiency programs and activities (i.e. consumer trade shows, special promotions, direct sales and rebate check inserts).
- Targeted direct mail outreach based on the age of the home and specific market segments.

- Placement of point-of-purchase brochures and advertising with applicable appliance and equipment dealers and contractors.
- Education and awareness meetings with participating trade allies on program aspects.
- Referrals and customer awareness assistance from the Southwest Gas Key Account Management and Service Planning staff (when applicable).
- Targeted outreach to trade organizations, engineers, contractors, energy service companies, and government agencies.

Outreach will include key messages effective for the appropriate target audience, dependent on the specific program. Such messages may include:

- Financial Savings: ENERGY STAR or high efficiency products are a great investment, lowering monthly utility bills and potentially adding value to a customer's residence or business.
- Good for the Environment: Purchasing products that use less energy decreases the overall demand for energy and water resources and leads to reductions in greenhouse gas emissions.
- Enhanced Performance: Products designed to be energy-efficient frequently have more features, are of higher quality, and perform to overall higher standards by incorporating innovative technologies and designs.
- Enhanced comfort: Enjoy a home with even temperatures throughout – warmer in winter and cooler in summer.
- Peace of Mind: Relax knowing your home has been inspected, performance tested and certified by an independent, professional home energy analyst.
- Healthier Indoor Air: Tightly sealed and performance-tested duct systems help keep the air inside your home clean.
- Enhanced Reputation (as a quality builder or property owner): ENERGY STAR offers market differentiation with a nationally recognized and trusted label for energy efficiency and quality.
- Increased Customer Satisfaction: High performance ENERGY STAR homes offer a high quality of living and ownership experience for homebuyers, leading to repeat customers, reduced callbacks and increased referrals.
- Technical Assistance and Best Practices: Partnering with professional home energy raters and utility field staff helps builders stay abreast of best practices based on sound building science.
- Trade Ally Partnership Benefits: By partnering with this program, retailers or installation contractors can benefit from outreach efforts, training opportunities, and technical assistance.
- Environmentally Friendly Business: By selling products and services that emphasize energy efficiency, trade allies can become associated with the image of an environmentally friendly business within their industry.
- Increased High Efficiency Equipment/Appliance Sales: Today's consumers are more knowledgeable of energy efficiency and are more likely to replace an old model product with a new energy-efficient product

to benefit from the immediate and long-term savings. Consumers also place a higher value on energy efficiency as a feature in new appliances.

One successful method Southwest Gas currently utilizes to reach commercial and industrial customers is the monthly electronic newsletter, *EnergyLine*, which is an e-mail newsletter containing technical information including: advice on using energy efficiently, reducing energy usage and lowering utility bills, answering questions about energy-efficient technologies, and increasing awareness of general environmental and energy issues. The newsletter also provides general natural gas information of interest to large customers, but focuses primarily on specific energy savings or technology information that will help customers optimize natural gas resources. The information may be generic or may apply specifically to customers in Southwest Gas' Arizona service territory. *EnergyLine* also contains a link to the Company's "Ask an Expert" hotline, an electronic research library that allows customers to request a contact for a commercial audit. Southwest Gas will continue to use *EnergyLine* to promote all of the Company's non-residential energy management programs. The Company believes that participating customers will be interested in ways to increase the energy efficiency of their facilities to further reduce their energy usage, resulting in increased participation in the Company's energy efficiency programs.

Each individual program budget includes a category for outreach that will cover specific program pieces used to promote the program. Market transformation education and awareness outreach will incorporate all programs into the overall energy efficiency outreach strategies, and will be budgeted through the *Smarter Greener Better* Energy Education program budget.

Delivery Strategies

All pertinent program rebate information will be tracked in a program specific database. The database will provide a near real-time listing of current customer applications, customer information, equipment information, customer costs, savings, and rebates by measure. Program related information will be tracked and available for reporting, including the number of program participants and measure participation.

Due-diligence application review activities will include verification of the following items as applicable, depending on the program:

- Customer Data: name, site address, account number.
- Sales Data: price, quantity, purchase location.
- Equipment Data: product name, installation date, capacity, efficiency rating, manufacturer, model number, serial number.
- Rebate Data: rebate amount, denial rates.
- Deemed energy savings per installed measure.
- HERS score for ENERGY STAR homes.
- Trade ally information.

- Savings and cost estimates.
- Adherence of delivery methodologies to standard industry practice.

In order to maintain quality control, Southwest Gas will augment the application process with random telephone or field inspections to ensure program integrity. These verification activities will serve to confirm the following information depending on the program:

- Installation address.
- Equipment make and manufacturer.
- Equipment model number.
- Program limitations are met.

The verification process will balance the need for randomness, the need to maintain a robust sample size, and the need to verify the compliance of multiple equipment installers. Southwest Gas will evaluate the success of each measure annually and propose changes to the program as necessary.

Conclusion

Southwest Gas believes its EE & RET Plan will benefit its customers, the general public, and the environment. Southwest Gas' EE & RET Plan includes programs that serve all major customer classes – residential, non-residential, and low-income customers, including some hard-to-reach and underserved segments within those classes.

With increased program availability and customer outreach, Southwest Gas hopes to affect greater customer awareness and behavioral change with regard to energy efficiency and renewable energy resource technology. The estimated program results indicate cost-effectiveness and positive benefits for Southwest Gas' customers. The EE & RET Plan is designed to achieve the second-year energy savings target of the Gas EE Standard and make a positive contribution in terms of saving energy resources, lowering customer utility bills, and improving air quality and water conservation.

RESIDENTIAL ENERGY MANAGEMENT PROGRAMS:
SMARTER GREENER BETTER RESIDENTIAL REBATES

Program Description

Southwest Gas will offer the *Smarter Greener Better* Residential Rebates program to residential customers in the Company's Arizona service territory. Rebates will be offered to participating customers on qualified, energy-efficient program measures upon proof-of-purchase and installation.

Currently, Southwest Gas offers a financing program[4] for all measures eligible under its Commission-approved *Smarter Greener Better* Residential Rebates program.

Program Objective

The overall objective of this energy-efficient program is to provide cost-effective savings on customer natural gas usage by offering rebates to qualifying Southwest Gas residential customers.

Qualifying Customers

All active, single family Southwest Gas residential customers located in the Company's Arizona service territory are eligible to participate in the program. New homebuilders constructing single and individually metered multi-family homes, and individually metered multi-family retrofit projects in Southwest Gas' Arizona service territory are also eligible for the tankless natural gas water heater incentive.

Qualifying Measures

Qualifying measure specifications will be reviewed annually and adjusted, as necessary, to reflect changing national efficiency standards. All measures must be natural gas equipment, or be supplied by a natural gas water or space heating unit.

Water heating is the third-largest home-energy cost, after space heating and cooling, and typically accounts for 14 to 20 percent of a residential customer's energy bill. Upgrading to high-efficient water heating measures, including measures supplied by a natural gas water heater, creates the potential for significant energy savings. Rebates provided as part of the *Smarter Greener Better* Residential Rebates program will help offset the incremental costs incurred by upgrading to energy-efficient measures. Qualifying measures and specifications are shown in Table 4 below.

[4] Southwest Gas Residential Energy-Efficient Consumer Products Financing Program approved by the Commission on April 7, 2011 (Decision No. 72256).

Table 4 – Qualifying Measure Specifications: Water and Space Heating Measures

WATER AND SPACE HEATING MEASURES	
Condensing Water Heater	ENERGY STAR qualified
Tankless Water Heater	ENERGY STAR qualified and EF ≥ 90%
Smart Low-Flow Showerhead	Gpm ≤ 1.5; ShowerStart Technology
Lavatory Faucet	WaterSense qualified
Clothes Dryer	Model must have a moisture sensor
Boiler	ENERGY STAR qualified and ≥ 95% AFUE

Rebate Amounts, Incremental Costs and Annual Savings

Southwest Gas determined the rebate amounts, incremental costs and annual therm savings by reviewing the best available information on incremental cost and energy savings of each measure. Rebate amounts were maintained at the minimum rebate levels needed to constitute a feasible marketing message to positively affect customer behavior and overall program cost-effectiveness. Estimated participation, rebate amounts, incremental costs, annual savings and cost-effectiveness ratios are provided in Table 5 below.

Table 5 – Estimated Participation, Rebate Amounts, *Incremental Customer* Costs, Annual Savings and Cost-Effectiveness Ratios: Water and Space Heating Measures

WATER AND SPACE HEATING MEASURES						
Condensing Water Heater	2,300	$325	$435	57	N/A	1.03
Tankless Water Heater	3,100	$450	$605	60	N/A	1.13
Smart Low-Flow Showerhead	1,500	$20	$40	21	N/A	1.71
Lavatory Faucet	1,500	$50	$75	17	N/A	1.01
Clothes Dryer	2,300	$30	$50	10	N/A	1.14
Boiler	100	$675	$900	78	N/A	1.01

Program Limitations

The following requirement applies for all measures:

- Measures must be purchased new, and may not be used or leased.
- Builders participating in the *Smarter Greener Better* Homes are not eligible for the tankless water heater measure offered under the *Smarter Greener Better* Residential Rebates program.

Target Audiences

Southwest Gas' primary target audience is residential customers of single-family homes and new homebuilders constructing single and individually metered multi-family homes, and individually metered multi-family retrofit projects.

Southwest Gas' secondary target audience is trade allies including retailers, distributors, and manufacturers.

Budget

Southwest Gas proposes a total annual estimated budget for this program of $3.05 million. Table 6 below provides the budget details by category.

Table 6 – Total Estimated Budget

Description	Estimated Budget
Rebates	$2,388,455
Administration	$20,000
Outreach	$70,000
Delivery	$546,545
MV&E	$25,000
Total	**$3,050,000**

Cost-Effectiveness Test Results

The cost-effectiveness test ratio for the *Smarter Greener Better* Residential Rebates program, along with the cost-benefit overview and projected lifetime savings, is shown below in Tables 7 and 8.

Table 7 – Cost-Benefit Overview

Present Value of Savings	$4,349,718
Present Value of Costs	$3,915,045
Net Social Benefit	$434,673
Cost-Effectiveness Ratio	**1.11**

Table 8 – Projected Lifetime Savings

Natural Gas (therms)	CO_2 (tons)
6,688,020	39,125

RESIDENTIAL ENERGY MANAGEMENT PROGRAMS:
SMARTER GREENER BETTER HOMES

Program Description

Southwest Gas offers the *Smarter Greener Better* Homes (Homes) program to increase participation of Arizona homebuilders in building more energy-efficient housing. As a performance-based, "whole-house" program, Homes is designed to increase residential energy efficiency through improved thermal shell construction, upgraded mechanical systems, and field verification of those measures. Overall energy efficiency for participating homes must meet the ENEGY STAR Version 3 (V3) guidelines and requirements.

The program involves the recruitment of builders into the program, review of their home plans, consultation on effective construction techniques required to meet the V3 guidelines, and inspection and testing of the homes for compliance. Homes which meet the V3 guidelines are then certified as ENERGY STAR and qualify for the tier 1 rebate. Southwest Gas is also proposing to offer a tier 2 rebate amount for builders who go above and beyond the V3 guidelines and seek out technologies which make their homes even more energy-efficient.

Program Objective

The overall objective of this energy-efficient program is to continue toward greater residential energy efficiency. ENERGY STAR has identified and laid out a national cost-effective and detailed path to better home performance.

Qualifying Customers

All builders of new single-family subdivision, custom homes and multi-family homes located within the Company's Arizona service territory and featuring natural gas water heating and/or space heating are eligible to participate in the program. Builders must register with the US Environmental Protection Agency as ENERGY STAR partners and agree to meet the *Smarter Greener Better* Homes program specifications.

Qualifying Measures

The ratings for the homes are performed by Home Energy Rating System (HERS) Providers. The HERS rating (score) calculates heating, cooling, hot water, lighting, and appliance energy loads, consumption and costs for new and existing single and multi-family homes. Specific factors include:

- Window area, U-factor, solar heat gain coefficient (SHGC), orientation, and shading
- Door R-value and size
- Wall cavity insulation R-value, cavity insulation quality, continuous insulation R-value and framing factors
- Ceiling insulation R-value and quality, and radiant barrier
- Floor insulation, cantilevers, over-garage area, etc.
- Water heater efficiency
- Lighting and appliance efficiency
- HVAC equipment efficiency, programmable thermostat
- Duct location and leakage
- Whole-house infiltration
- Site factors for heating and cooling degree days, wind
- Wall and roof color

For the purposes of this analysis, base case homes are considered to be homes that meet the current building code requirements for the State of Arizona and HERS score of 100. As homes become more energy-efficient, the HERS score decreases. Table 9 shows the proposed tier 1 and 2 rebate levels for the program. The HERS energy analysis for average homes built to the HERS score 66 and above (tier 1) and HERS score 65 and below (tier 2), is based on plans submitted by participating builders.

Table 9 – Qualifying Measure Specifications

ENERGY STAR Home Certification (Tier 1)	HERS Score $\geq$ 66
ENERGY STAR Home Certification (Tier 2)	HERS Score $\leq$ 65

Rebate Amounts, Incremental Costs and Annual Savings

To obtain reimbursement for Homes program participation, builders must meet program qualification criteria, complete an application with their HERS Provider, and submit it to Southwest Gas. Estimated participation, rebate amounts, incremental costs, annual savings and cost-effectiveness ratios are provided in Table 10.

Table 10 – Estimated Participation, Rebate Amounts, Incremental Customer Costs, Annual Savings and Cost-Effectiveness Ratios

ENERGY STAR Home Certification (Tier 1)	2,000	$450	$1,550	239,000	21,782,144	6.00
ENERGY STAR Home Certification (Tier 2)	1,000	$900	$3,000	321,600	35,773,404	5.05

Program Limitations

The following requirements apply:

- All homes must be ENERGY STAR certified and meet the Homes program requirements.
- The ENERGY STAR certification and rating must be performed by an independent third-party HERS Provider.
- Builders participating in the *Smarter Greener Better* Homes are not eligible for the tankless water heater measure offered under the *Smarter Greener Better* Residential Rebates program.

Target Audiences

Southwest Gas' primary target audience is new construction builders of single-family homes and multi-family homes.

Southwest Gas' secondary target audience for the Homes program is the consumer.

Budget

Southwest Gas proposes a total annual estimated budget of $2.5 million. Table 11 below provides the budget details by category.

Table 11 – Total Estimated Budget

Description	Estimated Budget
Rebates	$1,800,000
Administration	$25,000
Outreach	$200,000
Delivery	$450,000
MV&E	$25,000
Total	**$2,500,000**

Cost-Effectiveness Test Results

The cost-effectiveness test ratio for the *Smarter Greener Better* Homes program, along with the cost-benefit overview and projected lifetime savings, is shown below in Tables 12 and 13.

Table 12 – Cost-Benefit Overview

Present Value of Savings	$37,659,456
Present Value of Costs	$6,800,000
Net Social Benefit	$30,859,456
Cost-Effectiveness Ratio	**5.54**

Table 13 – Projected Lifetime Savings

Natural Gas (therms)	Electricity (MWh)	CO_2 (tons)
11,994,000	1,190,065[5]	70,165

[5] Using the conversion factor of 3.340, electric savings are equal to 40,605,031 therm equivalents.

RESIDENTIAL ENERGY MANAGEMENT PROGRAMS:
SMARTER GREENER BETTER RESIDENTIAL ENERGY ASSESSMENTS (PILOT)

Program Description

Southwest Gas will offer the *Smarter Greener Better* Residential Energy Assessments program on a pilot basis to residential customers in the greater Phoenix area within the Company's Arizona service territory. The program promotes a whole house approach to energy efficiency by offering direct installations and prescriptive incentives for improvements to the building envelope of existing residential homes. It includes measures to improve the energy efficiency of the home such as attic and floor insulation, faucet aerators for the lavatory and kitchen, and smart low-flow showerheads. The program will provide Southwest Gas customers with referrals to contractors who meet strict program requirements for professional standards, technician training, and customer satisfaction.

Southwest Gas has engaged in collaborative discussions with APS and SRP regarding partnership opportunities to cost-effectively implement Southwest Gas' Assessment program alongside their existing Home Performance with ENERGY STAR (HPES) programs. The pilot residential energy assessment program will be limited to the greater Phoenix area during its first year, with future plans to expand to the Company's entire Arizona service territory. Southwest Gas believes partnering with the electric utilities, which have existing successful and cost-effective energy assessment programs already in place, will provide a more customer friendly experience and a single contractor interface.

APS and SRP launched their HPES program on March 17, 2010, and November 15, 2010, respectively. Customers must undergo a $99 home energy assessment performed by a participating HPES contractor. Both utilities currently contribute $200 directly to the contractors to buy down the real cost of the energy assessment, valued at $500. Contractors assess the air conditioning system, ductwork, insulation and building envelope; perform a blower door test; replace up to 10 incandescent light bulbs with energy-efficient compact fluorescent light bulbs (CFL); install a low-flow showerhead; and install three low-flow faucet aerators. As a part of this comprehensive evaluation, contractors are required to input the home data into energy modeling software provided by the electric utilities. The software models the estimated impact for each recommended measure and provides the customers with accurate information on expected savings and payback periods.

Customers who participate in the assessment program will also have access to measures offered under the *Smarter Greener Better* Residential Rebates program, along with all available APS and SRP rebate and recycling programs.

Southwest Gas proposes to partner with the electric utilities to: supplement contractor funding to buy down the cost of the energy assessment; provide smart low-flow showerheads and faucet accessories (aerators) for direct install in homes with natural gas water heating; provide rebates for attic and floor insulation installations, paid directly to customers with natural gas space heating; and provide information for the Southwest Gas *Smarter Greener Better* Residential Rebates program.

Program Objective

The overall objective of this energy-efficient program is to help customers improve the comfort, energy efficiency, safety and durability of their homes while also helping to preserve the environment.

Qualifying Customers

All active Southwest Gas residential customers, including single family detached homes, townhomes, attached homes of four or fewer units, and manufactured homes, located within the greater Phoenix service territory of APS and SRP are eligible to participate in the program.

Southwest Gas will fund energy audits for homes with natural gas water heating and/or natural gas space heating. Direct install measures will only be installed in homes with natural gas water heating and insulation rebates will only be paid to customers with natural gas heating.

Qualifying Measures

Qualifying measures and specifications are shown in Tables 14 and 15.

Table 14 – Qualifying Direct Install Measure Specifications

Smart Low-Flow Showerhead	Gpm $\leq$ 1.5; ShowerStart Technology
Lavatory Faucet Accessory (Aerator)	Gpm $\leq$ 1.0
Kitchen Faucet Accessory (Aerator)	Gpm $\leq$ 1.5

Table 15 – Qualifying Weatherization Measures Specifications

WEATHERIZATION MEASURES	
Attic Insulation	Install ≥ R-19 (Final condition must be ≥ R-30)
Floor Insulation	Install ≥ R-6 (Final condition must be between R-13 and R-

Rebate Amounts, Incremental Costs and Annual Savings

Southwest Gas determined the rebate amounts, incremental costs and therm savings by reviewing the best available information on incremental cost and energy savings of the measures. The measures will be installed for participating customers at no-cost. Estimated participation, rebate amounts, incremental costs and annual savings are provided in Tables 16 and 17 below.

Table 16 – Estimated Participation, Rebate Amounts, Incremental Customer Costs and Annual Savings

Home Assessment	7,600	$25	$25	0	N/A	0
Smart Low-Flow Showerhead	4,560	-	$25	21	N/A	1.45
Lavatory Faucet Accessory (Aerator)	11,400	-	$1	9	N/A	1.89
Kitchen Faucet Accessory (Aerator)	5,700	-	$3	5	N/A	1.35

[1] The $25 home assessment measure will be paid directly to the contractor to buy down the cost of the assessment. The remaining measures will be installed for participating customers at no-cost and therefore no rebates will be paid.

Table 17 – Estimated Participation, Rebate Amounts, Incremental Customer Costs, Annual Savings and Cost-Effectiveness Ratio: Weatherization Measures

WEATHERIZATION MEASURES						
Attic Insulation	3,800	$0.15/ SqFt	$0.50/ SqFt	0.015 /SqFt	N/A	1.02
Floor Insulation	1,500	$0.30/ SqFt	$0.42/ SqFt	0.019 /SqFt	N/A	1.47

Program Limitations

The following requirements apply:

- Only one (1) energy audit will be provided per residence.
- Smart low-flow showerheads will be limited to one (1) per residence.
- Lavatory faucet accessories will be limited to two (2) per residence.
- Kitchen faucet accessories will be limited to one (1) per residence.
- Performing R-value of attic insulation must be below R-19 to be eligible for the attic insulation measure. Insulation measures require air sealing prior to installation and shall include: bypasses (e.g. chases & interstitial cavities), soffits, electrical, plumbing, HVAC penetrations and attic access.

Additional mutually agreed upon program limitations will be further determined by Southwest Gas, APS and SRP.

Target Audiences

Southwest Gas' primary target audience is its residential consumers in the APS and SRP service territories.

Budget

Southwest Gas proposes a total annual estimated budget for this program of $2,600,000. Table 18 below provides the budget details by category.

Table 18 – Total Estimated Budget

Description	Estimated Budget
Rebates[1]	$1,709,200
Administration	$50,000
Outreach	$65,000
Delivery	$715,800
MV&E	$60,000
Total	**$2,600,000**

[1] Rebates budget category for this program includes a portion of the contractor costs and the cost of direct-install measures.

Cost-Effectiveness Test Results

The cost-effectiveness test ratio for the *Smarter Greener Better* Residential Energy Assessments program, along with the cost-benefit overview and projected lifetime savings, is shown below in Tables 19 and 20.

Table 19 – Cost-Benefit Overview

Present Value of Savings	$5,777,335
Present Value of Costs	$5,354,680
Net Social Benefit	$422,655
Cost-Effectiveness Ratio	**1.08**

Table 20 – Projected Lifetime Savings

Natural Gas (therms)	CO_2 (tons)
7,446,195	43,560

NON-RESIDENTIAL ENERGY MANAGEMENT PROGRAMS:
SMARTER GREENER BETTER COMMERCIAL REBATES

Program Description

Southwest Gas will offer the *Smarter Greener Better* Commercial Rebates program to both new and existing non-residential customers. It is designed to encourage the purchase of high efficiency equipment to reduce energy consumption. Rebates are available for purchasing and installing qualifying natural gas high efficiency measures at individually and master metered commercial properties. Qualifying measures include those that target cost-effective natural gas savings, including retrofits of existing systems and first time installations. Rebates will be paid directly to participating customers.

The equipment utilized by non-residential customers typically uses a large amount of energy; therefore, the potential for energy savings can be significant. The increased initial cost of high efficiency products is a barrier that can often be overcome with appropriate financial incentives, coupled with education on the benefits of greater energy efficiency. Southwest Gas' *Smarter Greener Better* Commercial Rebates combined with the overall Non-Residential Energy Management programs will achieve the necessary market transformation and greater energy savings.

Program Objective

The overall objective of this energy-efficient program is to reduce customer natural gas usage by offering prescriptive rebates to non-residential customers in the Company's Arizona service territory.

Qualifying Customers

All active, Southwest Gas non-residential customers located in the Company's Arizona service territory are eligible to participate in the program. Owners of master metered multi-family properties located in Southwest Gas' Arizona service territory are also eligible.

Qualified Measures

Qualifying measure specifications will be reviewed annually and adjusted, as necessary, to reflect changing national efficiency standards. All measures must be natural gas equipment, or be supplied by a natural gas water or space heating unit.

High efficiency space and water heating units achieve greater efficiencies due to features such as: electronic ignition, which eliminates the need to have the pilot burning all the time; new combustion technologies that extract more heat from the same amount of fuel; and sealed combustion that uses outside air to fuel the

burners, reducing drafts and improving safety. Qualifying water and spacing heating measures and specifications are shown below in Table 21.

Table 21 – Qualifying Measure Specifications: Water and Space Heating Measures

WATER AND SPACE HEATING MEASURES	
Storage Water Heater	Thermal efficiency ≥ 90%
Tankless Water Heater	ENERGY STAR qualified and EF ≥ 90%
Non-condensing Boiler	Combustion efficiency ≥ 85%; must be installed with modulating burner control and O_2 trim control pad (on boilers ≥ 10MMBtu)
Condensing Boiler	Thermal efficiency ≥ 92%; certified by third-party
Boiler – Modulating Burner Control	Turndown ratio ≥ 5:1
Boiler – O_2 Trim Control Pad	O_2 trim control pad must be installed
Boiler – Steam Trap	Steam trap must be installed, replaced or repaired to original operating function
Air Curtain	Usage ≥ 20 hour/week

Choosing high efficiency commercial food service equipment can help restaurant owners and operators improve the performance of their facilities and equipment while reducing energy costs. According to the ENERGY STAR website, restaurants that invest strategically can cut utility costs 10 to 30 percent annually without sacrificing service, quality, style or comfort – while making significant contributions to a cleaner environment. Qualifying commercial food service measures and specifications are shown below in Table 22.

Table 22 – Qualifying Measure Specifications: Food Service Measures

FOOD SERVICE MEASURES	
Griddle	ENERGY STAR qualified
Steamer	ENERGY STAR qualified
Fryer	ENERGY STAR qualified
Large Vat Fryer	ENERGY STAR qualified
Convection Oven	ENERGY STAR qualified
Combination Oven	Combustion efficiency ≥ 40%
Conveyor Oven (>25")	Energy efficiency ≥ 42%; idle energy rate ≤ 57,000 Btu/h (Standard F1817)
Dishwasher (Low Temp): Door Type	ENERGY STAR qualified
Dishwasher (Low Temp): Single Tank Conveyor	ENERGY STAR qualified
Dishwasher (Low Temp): Multi Tank Conveyor	ENERGY STAR qualified
Dishwasher (High Temp/Gas Booster Heater): Under Counter	ENERGY STAR qualified
Dishwasher (High Temp/Gas Booster Heater): Door Type	ENERGY STAR qualified
Dishwasher (High Temp/Gas Booster Heater): Single Tank Conveyor	ENERGY STAR qualified
Dishwasher (High Temp/Gas Booster Heater): Multi Tank Conveyor	ENERGY STAR qualified

In addition to the measures shown in Tables 21 and 22, all appliance measures included in the *Smarter Greener Better* Residential Rebates program are available to non-residential Southwest Gas customers under the *Smarter Greener Better* Commercial Rebates program. This will allow Southwest Gas to pay rebates to small commercial customers that install residential-size equipment in their facilities, and to encourage participation across the entire non-residential market sector.

Rebate Amounts, Incremental Costs and Annual Savings

Southwest Gas determined rebate amounts, incremental costs and annual therm savings by reviewing the best available information on incremental cost and energy savings of each measure. Rebate amounts were maintained at the minimum rebate levels needed to constitute a feasible marketing message to positively affect customer behavior and overall program cost-effectiveness.

Due to the significant initial cost of high efficiency equipment, rebates equating to at least 75 percent of the incremental cost are vital to the success of this program and to the desired market transformation. Estimated participation, rebate amounts, incremental costs, annual savings and cost-effectiveness ratios are provided in Tables 23 and 24 below.

Table 23 – Estimated Participation, Rebate Amounts, Incremental Customer Costs, Annual Savings and Cost-Effectiveness Ratios: Water and Space Heating Measures

WATER AND SPACE HEATING MEASURES						
Storage Water Heater	70	$1,100	$1,592	266	N/A	1.05
Tankless Water Heater	130	$450	$605	78	N/A	1.49
Non-condensing Boiler	20	$1.00/ MBTUH	$5/ MBTUH	1,130	N/A	2.39
Condensing Boiler	30	$1.25/ MBTUH	$5.36/ MBTUH	3,650	N/A	3.26
Boiler – Modulating Burner Control	40	$10,000 maximum	Up to $35,000	2,100	N/A	1.97
Boiler – O_2 Trim Control Pad	40	$10,000 maximum	Up to $16,000	5,000	N/A	6.74
Boiler – Steam Trap	60	$250 maximum	Up to $500	440	N/A	3.50
Air Curtain	140	$ 2,100	$2,800	1,449	N/A	3.12

Table 24 – Estimated Participation, Rebate Amounts, Incremental Customer Costs, Annual Savings and Cost-Effectiveness Ratios: Food Service Measures

FOOD SERVICE MEASURES						
Griddle	20	$600	$800	149	N/A	1.15
Steamer	10	$300	$420	348	N/A	2.62
Fryer	10	$1,350	$1,800	360	N/A	1.22
Large Vat Fryer	10	$1,350	$1,800	360	N/A	1.22
Convection Oven	10	$1,100	$1,465	306	N/A	1.26
Combination Oven	10	$1,100	$1,519	403	N/A	1.52
Conveyor Oven (>25")	10	$900	$1,247	845	N/A	2.86
Dishwasher (Low Temp): Door Type	10	$1,500	$2,000	554	N/A	2.02
Dishwasher (Low Temp): Single Tank Conveyor	10	$2,250	$3,000	520	N/A	1.92
Dishwasher (Low Temp): Multi Tank Conveyor	10	$3,000	$4,000	798	N/A	2.16
Dishwasher (High Temp/Gas Booster Heater): Under Counter	10	$750	$1,000	326	N/A	1.46
Dishwasher (High Temp/Gas Booster Heater): Door Type	10	$1,575	$2,100	608	661	2.20
Dishwasher (High Temp/Gas Booster Heater): Single Tank Conveyor	10	$2,250	$3,000	762	5,852	3.53

Program Limitations

The following requirements apply:

- Measures must be purchased new, and may not be used or leased.

Target Audiences

Southwest Gas' primary target audience is all non-residential customers located in Southwest Gas' Arizona service territory.

Southwest Gas' secondary target audience is trade allies including retailers, distributors, and manufacturers.

Budget

Southwest Gas proposes a total estimated annual budget for this program of $2.3 million. Table 25 below provides the budget details by category.

Table 25 - Total Estimated Budget

Description	Estimated Budget
Rebates	$1,327,270
Administration	$90,000
Outreach	$242,730
Delivery	$550,000
MV&E	$90,000
Total	**$2,300,000**

Cost-Effectiveness Test Results

The cost-effectiveness test ratio for the *Smarter Greener Better* Commercial Rebates program, along with the cost-benefit overview and projected lifetime savings is shown below in Tables 26 and 27.

Table 26 – Cost-Benefit Overview

Present Value of Savings	$10,260,503
Present Value of Costs	$3,556,380
Net Social Benefit	$6,586,920
Cost-Effectiveness Ratio	**2.85**

Table 27 – Projected Lifetime Savings

Natural Gas (therms)	Electricity (MWh)	CO_2 (tons)
15,397,280	1,270[6]	91,040

[6] Using the conversion factor of 3.340, electric savings are equal to 43,317 therm equivalents.

NON-RESIDENTIAL ENERGY MANAGEMENT PROGRAMS:
SMARTER GREENER BETTER CUSTOM COMMERCIAL REBATES

Program Description

Southwest Gas will offer the *Smarter Greener Better* Custom Commercial Rebates program to both new and existing non-residential customers located in the Company's Arizona service territory. The program is designed to obtain verifiable, cost-effective, and on-going natural gas savings. Program participants will provide submittals showing a specific quantity of natural gas reduction through the installation of program measures in return for a fixed price per therm rebate up to a cap equal to a percentage of the eligible incurred project cost.

The program requires customers to submit specific information for each project and to conduct energy engineering and commissioning at their own cost. For purposes of this program, commissioning includes verification of the project savings and confirmation that the measures are operating as intended. All commissioning activities, including verification and confirmation, will be the customer's responsibility and will all be reviewed by Southwest Gas. This project information will be provided in two reports: the Pre-Installation Report (PIR) and Post-Installation Report (POR). Rebates will be paid directly to participating customers who meet the program requirements.

The program is designed to leverage the outreach and existing delivery channels of local businesses, wholesalers and retailers, as well as Southwest Gas Key Account Management and Service Planning personnel.

Program Objective

The objectives of the program include: encouraging private sector delivery of energy efficiency products and services; achieving customer gas and cost savings; and significantly reducing barriers to participation by streamlining program procedures and measurement and verification (M&V) requirements.

Qualifying Customers

All active, Southwest Gas non-residential customers located in the Company's Arizona service territory are eligible to participate in the program.

Qualifying Measures

Qualifying measures include those that target cost-effective natural gas savings, including retrofits of existing systems, improvements to existing systems, and first time installations where the system's efficiency exceeds applicable codes or standard industry practice. The program does not specify eligible measures in order to provide program participants maximum flexibility in identifying potential projects. Participants may propose any measure that: produces a verifiable natural gas usage reduction, is installed in either existing or new construction applications, has a minimum useful life of seven years, and exceeds minimum cost-effectiveness.

Rebate Amounts

Subsequent to approval of a PIR, a customer will be required to enter into a Program Agreement with Southwest Gas in order to be eligible for rebates.

The program's rebate levels for the installation of measures pursuant to the Program Agreement shall be the lesser of (a) $1.00/therm per first year annual therm savings as determined solely by Southwest Gas; or (b) 50 percent of the eligible project cost as determined solely by Southwest Gas.

Program Limitations

Measures that are excluded from this program include those that:

- Are offered through the *Smarter Greener Better* Commercial Rebates program.
- Rely solely on changes in customer behavior.
- Merely terminate existing processes, facilities, or operations.
- Are not fuel neutral.
- Are required by state or federal law, building or other codes, or are standard industry practice.
- Qualify for rebates through any other EE or RET program offered by Southwest Gas.

Project Identification (PIR)

The first report required prior to project installation is titled the PIR. To assess projects for eligibility and program approval, the customer must submit the following information:

- Identification of the project site and account information.
- An energy analysis report submitted by the customer, adhering to industry standard practices for energy engineering and containing the following:

- Descriptions of the proposed set of energy efficiency measures;
- Summary of the energy savings and eligible project costs;
- Baseline operational conditions and energy consumption data supported by spot or short-term measurements, trended data, or accepted engineering practices for each proposed measure;
- A description of the calculations and methodologies that support the baseline, proposed operation, natural gas savings, and eligible costs;
- Supporting documentation for the estimated eligible measure costs;
- Any additional information necessary for the review of the project such as calculation spreadsheets, simulation models, vendor quotes, and equipment specifications; and
- Commissioning plan for verifying the proposed measure operation and energy savings.

- Brief summary of the anticipated project timeline.

Following the submission of a PIR, but prior to project installation, the Company will conduct any site inspection activities necessary to confirm the baseline conditions and anticipated project scope. Once the PIR is reviewed and approved, the Company will send an approval letter to the customer containing project review results and the anticipated rebate amount.

If the project does not meet the eligibility requirements, or if the PIR is incomplete or of insufficient quality, the PIR will be rejected. The customer may address deficiencies in the PIR and resubmit for program consideration.

The customer is responsible for submitting the PIR and allowing time for the appropriate review prior to purchasing equipment. Projects that have been purchased or installed prior to approval of the PIR will be reviewed for program eligibility and will be subject to all program requirements before becoming eligible for rebates under the program.

Project Commissioning

This step ensures that the predicted energy savings are being achieved and that the system's operation and performance are optimized. Commissioning is the responsibility of the building owner and can be completed by the customer's internal staff or installing contractor. Commissioning is required to receive a full rebate.

Project-specific commissioning procedures may be classified according to three distinct approaches, representing increasing levels of detail and rigor:

- Deemed savings: Savings values are stipulated based on engineering calculations using typical equipment characteristics and operating schedules developed for particular applications, without on-site testing or metering.
- Simple M&V: Savings values are based on engineering calculations using typical equipment characteristics and operating schedules developed for particular applications, with some short-term testing or simple long-term metering.
- Full M&V: Savings values are estimated using a higher level of scrutiny than the deemed savings or simple M&V approaches, through the application of metering, billing analysis, and/or computer simulation.

Customers must submit a commissioning plan for each project, with the PIR. Commissioning procedures will vary in detail and thoroughness depending on the measures installed. The level of detail and rigor of the commissioning plan is determined by the project size and risk to rebates and project savings. Southwest Gas will specify the approach required in the commissioning plan.

If the customer and program administrator agree to pursue the "Full M&V" or "Simple M&V" options, the commissioning must follow the International Performance Measurement and Verification Protocol.

Commissioning must be completed when the building is fully occupied and when the system's operation can be verified. Some measures may require operation during the cooling or heating seasons and the time required to complete commissioning activities will range from a few days up to a few months.

Post Installation Report (POR)

After the Company approves the PIR, the customer will install the identified measures. Upon completion of each approved project, the customer will begin the commissioning phase in accordance with the commissioning plan previously approved by the Company. Thereafter, the customer must submit a POR to the Company that includes the following:

- A report summarizing the results of the commissioning activities and as-installed operation of the measures;
- Additional information necessary for the review of the project such as final calculation spreadsheets, simulation models, invoices, and equipment specifications;
- Verified natural gas reduction;
- Verified eligible project costs; and
- Estimated rebate amount.

Once the POR is reviewed and approved, the Company will send an approval letter to the customer containing project review results and the rebate amount.

If the project does not meet the eligibility requirements, if the project is not of sufficient quality, or if the POR is incomplete, the POR will be rejected. The customer may address deficiencies in the POR and resubmit for program consideration.

Target Audiences

Southwest Gas' primary target audience is all non-residential customers located in the Company's Arizona service territory.

Southwest Gas' secondary target audience is trade allies including retailers, distributors and manufacturers.

Budget

Southwest Gas proposes a total estimated annual budget for this program of $350,000. Table 28 below provides the budget details by category.

Table 28 - Total Estimated Budget

Description	Estimated Budget
Rebates	$162,000
Administration	$10,000
Outreach	$68,000
Delivery	$100,000
MV&E	$10,000
Total	**$350,000**

Cost-Effectiveness Test Results

The cost-effectiveness test ratio for the *Smarter Greener Better* Custom Commercial Rebates program, along with the cost-benefit overview and projected lifetime savings is shown below in Tables 29 and 30.

Table 29 – Cost-Benefit Overview

Present Value of Savings	$4,156,562
Present Value of Costs	$546,733
Net Social Benefit	$3,609,830
Cost-Effectiveness Ratio	**7.60**

Table 30 – Projected Lifetime Savings

Natural Gas (therms)	CO_2 (tons)
6,465,360	37,822

NON-RESIDENTIAL ENERGY MANAGEMENT PROGRAMS:
SMARTER GREENER BETTER DISTRIBUTED GENERATION

Program Description

Southwest Gas will offer the *Smarter Greener Better* Distributed Generation program to those large commercial and industrial customers in the Company's Arizona service territory. Distributed generation is defined as localized, on-site mechanical or electrical power generation, typically deployed through the use of modulating technologies. The *Smarter Greener Better* Distributed Generation program will encourage the installation of high efficiency Combined Heat and Power (CHP) technologies.

CHP describes any system that uses a primary energy source to simultaneously produce electric energy and useful process heat. Most CHP systems are configured to generate electricity, recapture the waste heat, and use that heat for space heating, water heating, industrial steam loads, air conditioning, humidity control, water cooling, product drying, or any other thermal need. Alternately, CHP may use excess heat from industrial processes and convert it into electricity.

Program Objective

The overall objective of the *Smarter Greener Better* Distributed Generation program is to provide a rebate for large energy users to achieve significant fuel savings by promoting high efficiency electric generation, providing financial benefits during peak electrical demand periods, and demonstrating the use of new natural gas technologies which are being brought to market.

The market potential for CHP is substantial and could contribute significantly to energy conservation in Arizona, and could accrue significant societal and customer benefits as well. CHP is an affordable, clean, and reliable piece of the puzzle for meeting Arizona's energy needs and should be considered a key component to economic strategies.

The program has various benefits for large commercial and industrial customers, including:

- Awareness of how the customer uses energy;
- Awareness of largest energy consuming processes;
- Information to justify energy-saving initiatives for company management;
- Awareness of new technologies;
- Reduced overall energy consumption;
- Lower energy costs to customer; and
- Lower environmental emissions.

Qualifying Customers

All active, Southwest Gas non-residential customers located in the Company's Arizona service territory are eligible to participate in the program, provided they contribute to the Company's DSM rate adjuster. The program will focus on large commercial and industrial customers with the potential to utilize CHP applications. Municipalities, schools, restaurants, hospitals, and hotels are all viable candidates for CHP.

To qualify for rebates, customers must complete a preliminary feasibility study. The preliminary feasibility study is necessary to identify those customers that are good candidates for a CHP system. To help customers obtain the preliminary feasibility study, Southwest Gas will be working with the U.S. Department of Energy Intermountain Clean Energy Application Center, which offers the studies at no cost.

Qualifying Measures

The program's qualifying measures are listed below:

- $500 per kW (or equivalent for mechanical power) for CHP systems with a fuel efficiency of at least 70 percent, up to a maximum of 50 percent of the installed cost of any project;

- $450 per kW (or equivalent for mechanical power) for CHP systems with a fuel efficiency of at least 65 percent, up to a maximum of 50 percent of the installed cost of any project;

- $400 per kW (or equivalent for mechanical power) for CHP systems with a fuel efficiency of at least 60 percent, up to a maximum of 50 percent of the installed cost of any project.

Rebate Amounts, Incremental Costs and Annual Savings

Southwest Gas determined the rebate amounts, incremental costs and annual therm savings by reviewing the best available information on incremental cost and average energy savings of CHP systems. The annual energy savings of a CHP system will vary dramatically depending upon the size and efficiency of the installed system. Estimated participation, rebate amounts, incremental costs, annual savings and a cost-effectiveness ratio are provided in Table 31 below.

Table 31 – Rebate Amounts and Incremental Customer Costs

WEATHERIZATON MEASURES						
Fuel efficiency ≥ 60%	4	$400/ kW	$1,000/ kW	472,560	N/A	2.12
Fuel efficiency ≥ 65%		$450/ kW	$1,000 /kW			
Fuel efficiency ≥ 70%		$500/ kW	$1,000/ kW			

[1] Rebate amounts are per kW or equivalent kW for mechanical power and are up to a maximum of 50 percent of the installed cost of any project.

Additional rebates will be available for qualifying customers to perform an engineering design study. The rebate amount will be 75 percent of the cost of the engineering study, up to a maximum of $3,000.

Program Limitations

The following requirements apply:

- All facilities must be reviewed by Southwest Gas or its designee.
- Total rebates from Southwest Gas funds shall not exceed 75 percent of the total installation costs.

Target Audiences

Southwest Gas' primary target audience is large commercial and industrial customers.

Budget

Southwest Gas proposes a total annual estimated budget for this program of $1 million. Table 32 below provides the budget details by category.

Table 32 – Total Estimated Budget

Description	Estimated Budget
Rebates	$640,000
Administration	$36,000
Outreach	$144,000
Delivery	$144,000
MV&E	$36,000
Total	**$1,000,000**

Cost-Effectiveness Test Results

Tables 33 and 34 below show the cost-effectiveness test ratio, cost-benefit overview and projected lifetime savings for the *Smarter Greener Better* Distributed Generation program.

Table 33 – Cost-Benefit Overview

Present Value of Savings	$6,541,161
Present Value of Costs	$3,080,000
Net Social Benefit	$3,461,161
Cost-Effectiveness Ratio	**2.12**

Table 34 – Projected Lifetime Savings

Natural Gas (therms)	CO_2 (tons)
9,845,200	57,594

LOW-INCOME PROGRAM:
SMARTER GREENER BETTER LOW-INCOME ENERGY CONSERVATION

Program Description

Southwest Gas proposes to continue to offer the Low-Income Energy Conservation (LIEC) program to income-qualified residential customers in the Company's Arizona service territory. The program is comprised of two components: one provides energy efficient home improvements such as increased insulation, weatherstripping, caulking, etc., otherwise categorized as weatherization; and the other provides emergency assistance to help pay household natural gas bills.

The weatherization component of the program includes: a home energy audit to identify energy efficiency improvements and potential health and safety concerns existing in the home; home weatherization, which may also include appliance repairs or replacements resulting from health and safety concerns; and consumer energy conservation tips, commonly referred to as energy education. The combination of these measures result in cost-effective reductions in energy usage in income-qualified residences. Weatherization provides a lasting solution by addressing the causes of high energy bills. Energy improvements, such as adding insulation to the walls and roofs, can last for the lifetime of the dwelling. Furthermore, energy efficiency results can be expected year after year. This component targets households who lack the resources to invest in energy efficiency, while using the most advanced technologies and testing protocols available in the housing industry.

Program measures fall into four major categories: 1) duct repair; 2) infiltration control; 3) insulation (including attic, duct and floor); and 4) repair or replacement of appliances that are not operational or pose a health hazard. Typical weatherization services include installing insulation, sealing, tuning and repairing cooling and heating systems, and mitigating heat gain through windows, doors, and other infiltration points.

The bill assistance component to the LIEC program is available to income-qualifying customers in emergency situations and provides up to $400 per year to pay all or a portion of their natural gas bills. The program assists households that have experienced a sudden loss of income, utility disconnection, unexpected expenses resulting in an inability to pay, or health risks associated with the non-use of gas appliances.

Both LIEC program components operate on a program year from July 1st through June 30th, as do the other federally-funded programs administered by the Governor's OEP and ACAA.

Program Objective

The overall objective of this program is to reduce customer natural gas usage, and overall energy usage, by offering cost-effective weatherization measures to income-qualified residential customers. Southwest Gas also provides customer energy education in order to reduce energy usage and improve the health and safety of participating households.

Southwest Gas projects that approximately 300 homes will be weatherized, and approximately 700 households will participate in the bill assistance component of the program.

Qualifying Customers

All active Southwest Gas residential customers located in the Company's Arizona service territory, with homes that are gas heated and households with an annual income less than 150 percent of the federal poverty income guidelines (as established annually by the U.S. Department of Health and Human Services), are eligible to participate in the program. Owner-occupied or rental units (with the consent of the owner) can also be weatherized if located within the Company's Arizona service territory.

To qualify for the bill assistance component of the program, a household must be gas heated and income-qualified according to the standards set forth above. The household must not have received Southwest Gas bill assistance during the previous 12 months. In addition, the household must be facing a hardship, such as a sudden loss of income, utility disconnection, unexpected expenses resulting in an inability to pay, or health risks associated with the non-use of gas appliances.

Qualifying Measures

For the weatherization component, qualifying measures fall into four major categories: duct repair; infiltration control; attic insulation; and the repair or replacement of appliances that are not operational or pose a health hazard. Non-energy benefits that increase the comfort or health and safety of the home are installed under the Health and Safety budget category.

Due to the differences in housing stock and the varying quantity of measures installed in each household, Southwest Gas calculates the cost-effectiveness for the program based on actual energy savings achieved per household. An annual analysis is conducted on a sampling of homes weatherized utilizing APS, TEP, Unisource Gas and Electric, and Southwest Gas utility data. Southwest Gas evaluates this data, along with all approved measures, to ensure overall household energy savings are achieved.

Program Limitations

Weatherization component costs required to complete the necessary measures (excluding all administrative costs) shall not exceed $3,000 per household, unless prior approval is granted by Southwest Gas. Approval will only be granted if the total investment meets program cost-effectiveness requirements.

Weatherization Program Administration

The weatherization program will be administered by Southwest Gas, in conjunction with the Arizona Governor's OEP, community action agencies (agencies), and other Arizona utilities. The OEP manages the Department of Energy's (DOE) Weatherization Assistance Program for Arizona and leverages funding from federal, state and utility programs. For the LIEC program, the OEP will expand its current contracts with community agencies to include funding from Southwest Gas.

To participate in the program, customers must request assistance through the agencies, which screen applicants based upon program criteria. Once qualifying customers are identified, the agencies conduct energy audits to gather, record, and analyze data on the residences. While in the home, agency personnel explain the measures that will be installed and offer a variety of no-cost/low-cost energy conservation tips.

The current statewide weatherization program administered by the OEP uses very detailed guidelines to optimize investment in energy efficiency through a systems approach. The state of Arizona is divided into six climate zones. Each of these zones has a corresponding priority list of known cost-effective weatherization materials/measures that can be installed. In cases where potentially cost-effective energy upgrades are either not listed or are not approved safety measures, a computerized audit must be completed to develop a ranking of the energy upgrades, based on their savings-to-investment ratio. Diagnostic tools, such as a blower door and manometer, are used to detect and mitigate air infiltration and pressure imbalances. Crews also test heating and cooling units for carbon monoxide.

The DOE requires inspections on ten percent of qualified homes. The improper installation of weatherization measures can significantly reduce potential energy savings. The OEP strongly focuses on the proper installation techniques for weatherization measures. This reduces the number of "call backs" and failed inspections.

The OEP will invoice Southwest Gas monthly for the weatherization projects completed during the prior month. The OEP will also provide monthly statistics, including the number of customers served, the type of activities completed, and detailed activity costs by measure.

Bill Assistance Program Administration

The bill assistance component of the LIEC program is administered by Southwest Gas in conjunction with the ACAA. The ACAA partners with the following ten community-based agencies to distribute bill assistance funds throughout the Company's Arizona service territory:

- The City of Phoenix Human Services Department
- Maricopa County Human Services Department
- Southeastern Arizona Community Action Program
- Western Arizona Council of Governments
- Community Action Human Resources Agency
- Gila County Division of Health and Human Services
- Tucson Urban League
- Pima County Community Action Agency
- City of Glendale Community Action Partnership
- A New Leaf/Mesa Can

These agencies provide easy access to families in need. Many of these agencies subcontract with multiple community agencies in their service territories to assist the greatest number of clients. The agencies are adept at managing a variety of assistance programs and most offer an array of services, including food, shelter, rent and mortgage assistance, clothing, job training, healthcare and other vital programs for those in need.

ACAA will submit monthly reports to Southwest Gas for the bill assistance portion of the LIEC program. The reports will detail each agency's funding disbursements by customer and account number. Each of the ten approved agencies will receive base funding budgets of $5,000 each, with the remaining funding distributed according to a formula based on unemployment, customer population and state poverty levels.

Program Outreach

Southwest Gas combines the promotion and outreach activities for both the weatherization and bill assistance components of the LIEC program with its Low-Income Residential Assistance (LIRA) program. The LIRA program provides discounted rates for natural gas service to income-qualified customers from November through April, and year-round on the service establishment charge. Southwest Gas provides bill inserts in English and Spanish, provides program information on its website, meets annually with community action agencies, and attends a variety of community events. In addition, an annual supply of LIRA applications, which include LIEC program information, is sent to approximately 150 community agencies statewide.

As a result of the General Rate Case Settlement Agreement, Southwest Gas developed a Plan to Enhance Customer Education and Outreach for the LIEC

Weatherization program. The plan details current efforts, efforts that will be implemented with the acceptance of the Implementation Plan, and new efforts Southwest Gas will implement specific to the settlement discussions.

In addition, Southwest Gas communicates with the two administrative agencies, OEP and ACAA, to determine the value of additional promotion of the two program components. In most cases, additional promotion results in prolonged weatherization waiting lists and is generally viewed as a negative by the local agencies. Southwest Gas will continue to monitor the need for promotion and will place ads accordingly and in conjunction with local agency agreement.

Budget

Southwest Gas proposes a total estimated annual budget of $650,000. This budget is comprised of $450,000 DSM dollars, and $200,000 of Southwest Gas Shareholder dollars. Table 35 below provides the details for the weatherization program components.

Table 35 – Estimated Budget – Weatherization Component

Description	Program Year 2
Weatherization	$351,580
Health & Safety	$117,193
Subtotal Weatherization	**$468,773**
Special Project	$60,000
Training and Monitoring Costs	$20,000
Subtotal Program Supplements	**$80,000**
Administration - Governor's Office on Energy Policy	$31,350
Administration - Community Action Agencies	$46,877
Program Communication and Outreach - SWG	$23,000
Subtotal Program Support	**$101,227**
Total LIEC Weatherization Program Budget	**$650,000**
DSM Program Funding [1]	**$450,000**
Southwest Gas Shareholder Funding [2]	**$200,000**

[1] Southwest Gas recovers costs for DSM funding via an adjuster mechanism filed annually.

[2] Per Decision No. 72723, Southwest Gas will supplement the LIEC Weatherization component with an additional $1,000,000 over the next five program years.

Weatherization Health and Safety Budget

In addition to the energy conservation measures, community service referrals are made to appropriate agencies to address other health and safety needs observed in the participants' homes.

The OEP requires agency personnel to conduct a thorough safety check of each home and its appliances. Agency personnel follow strict health and safety procedures while performing all weatherization activities, for the protection of the occupants and themselves.

Funds not utilized under the Special Project or Health and Safety budget are transferred back into the overall weatherization budget and distributed to the agencies to weatherize more dwelling units. The Health and Safety budget may not exceed 25 percent of each agency's total annual budget.

On October 30, 2008, Southwest Gas sought approval to increase the bill assistance component of the LIEC program from $50,000 to $100,000. Prior to the request, 10 percent of the budget, or $5,000 was allocated to administrative costs for ACAA. On December 22, 2008, the Commission issued Decision No. 70660 granting Southwest Gas final approval to increase bill assistance funding from $50,000 to $200,000. In addition to raising the budget, the Decision capped the administrative budget at $15,000, or 7.5 percent of the total budget.

Based on input from the ACAA and several agencies, Southwest proposes to increase the budget from 7.5 percent to 15 percent as demonstrated in Table 36 below. ACAA will retain its current 7.5 percent allocation. The additional 7.5 percent will be divided among the ten agencies currently distributing Southwest Gas funds based upon current funding distribution levels.

Table 36 – Estimated Budget – Bill Assistance Component

Description	Program Year 2
Emergency Bill Assistance	$170,000
Administration - ACAA	$15,000
Administration - Community Action Agencies	$15,000
Total	**$200,000**

Cost-Effectiveness Test Results

The cost-effectiveness test ratio for the weatherization component of the *Smarter Greener Better* LIEC program, along with the cost-benefit overview and projected lifetime savings, is shown below in Tables 37 and 38.

Table 37 – Cost-Benefit Overview

Present Value of Savings	$1,279,878
Present Value of Costs	$452,307
Net Social Benefit	$827,571
Cost-Effectiveness Ratio	**2.83**

Table 38 – Projected Lifetime Savings

Natural Gas (therms)	Electricity (MWh)	CO_2 (tons)
182,655	39,684[7]	31,252

According to the DOE, when the energy and non-energy related benefits are combined, the cost-benefit ratio of energy reduction is $3.71 for every $1.00 invested in the program. This cost-effective approach ensures the proper investment of utility customer resources. Not only is this an investment in the lives of those in need, but an investment in the economic and environmental well-being of the community.

Energy expenses represent a significant cost to low-income communities. The DOE reports that, on average, low-income households typically spend 14 percent of their total annual income on energy, compared to 3.5 percent for other households. Since weatherization reduces home energy consumption on a continuing basis, it provides a long-lasting boost to the household's budget.

[7] Using the conversion factor of 3.340, electric savings are equal to 2,051,551 therm equivalents.

EDUCATIONAL PROGRAM:
SMARTER GREENER BETTER ENERGY EDUCATION (PILOT)

Program Description

Southwest Gas will offer the *Smarter Greener Better* Energy Education program as a pilot program to students and teachers at selected schools within the Company's Arizona service territory. This program will provide these students and teachers with in-person energy efficiency training and with take home energy efficiency kits and learning activities related to the efficient use of energy, along with information on Southwest Gas' other energy efficiency programs.

The take home energy efficiency kits will each include a low-flow showerhead, kitchen sink aerator, a bathroom sink aerator and other energy efficiency devices and materials. Students and teachers will also receive forms to complete and return that verify the installation of devices. Incentives will be offered to both students and teachers to encourage the completion and submission of the forms. In addition, students will receive introduction letters for their parents and teachers will receive packets that include a teacher guide and instructional posters for their classroom.

Program Objective

The overall objective of this Energy Education program is to provide students and teachers with devices that can be installed to generate energy savings and to educate them on the efficient use of energy. The energy efficiency kits are intended for teachers and parents, along with the students, to install the devices included in the kits, as well as learn about energy savings and Southwest Gas' available rebate programs.

Qualifying Customers

This program will be available to either elementary or middle school grade level students and teachers, which will be determined after consultation with the school districts within Southwest Gas' Arizona service territory.

Qualifying Measures

Qualifying measures and specifications for the devices included in the energy efficiency kits are shown in Table 39 below.

Table 39 – Qualifying Measure Specifications

Smart Low-Flow Showerhead	Gpm ≤ 1.5; ShowerStart Technology
Lavatory Faucet Accessory (Aerator)	Gpm ≤ 1.0
Kitchen Faucet Accessory (Aerator)	Gpm ≤ 1.5

Rebate Amounts, Incremental Costs and Annual Savings

Southwest Gas determined the rebate amounts, incremental costs and therm savings by reviewing the best available information on incremental cost and energy savings of the measures. The measures will be provided for participating students and teachers at no-cost. Estimated participation, rebate amounts, incremental costs and annual savings are provided in Table 40 below.

Table 40 – Estimated Participation, Rebate Amounts, Incremental Customer Costs and Annual Savings

Smart Low-Flow Showerhead	10,500	-	$25	21	N/A	1.88
Lavatory Faucet Accessory (Aerator)	10,500	-	$1	9	N/A	2.21
Kitchen Faucet Accessory (Aerator)	10,500	-	$3	5	N/A	1.59

[1] Measures will be provided for participating students and teachers at no-cost and therefore, no rebate will be paid to participants.

Program Outreach

Participants in the energy education program will be selected by Southwest Gas throughout the school districts in Arizona. Therefore, program outreach will be limited to providing community awareness of the program through efforts such as press releases. In addition, the energy efficiency kits will include information about the Company's other energy efficiency programs and energy saving tips.

Budget

Southwest Gas proposes a total estimated annual budget for this program of $550,000. Table 41 below provides the budget details by category.

Table 41 – Total Estimated Budget

Description	Estimated Budget
Rebates	-
Administration	$55,000
Outreach	$16,500
Delivery	$462,000
MV&E	$16,500
Total	**$550,000**

Cost-Effectiveness Test Results

The cost-effectiveness test ratio for the *Smarter Greener Better* Energy Education program, along with the cost-benefit overview and projected lifetime savings, is shown below in Tables 42 and 43.

Table 42 – Cost-Benefit Overview

Present Value of Savings	$964,398
Present Value of Costs	$550,000
Net Social Benefit	$414,398
Cost-Effectiveness Ratio	**1.75**

Table 43 – Projected Lifetime Savings

Natural Gas (therms)	CO_2 (tons)
1,575,000	9,214

RENEWABLE ENERGY RESOURCE TECHNOLOGY PROGRAM:
SMARTER GREENER BETTER SOLAR THERMAL REBATES

Program Description

Southwest Gas will offer the *Smarter Greener Better* Solar Thermal Rebates program to residential and non-residential customers in Southwest Gas' Arizona service territory. Rebates will be offered to participating customers on qualified solar thermal systems upon proof-of-purchase and installation.

Program Objective

The overall objective of this energy-efficient program is to increase public awareness of the benefits of using renewable energy and installing solar thermal systems and to reduce customer natural gas usage by providing economically beneficial rebates to install the systems. Long-term customer energy savings will be realized throughout the life of the solar thermal systems.

Qualifying Customers

All active Southwest Gas residential and non-residential customers located in Southwest Gas' Arizona service territory are eligible to participate in the program.

Qualifying Measures

Qualifying measure specifications will be reviewed annually and adjusted, as necessary, to reflect changing national efficiency standards. All measures must be installed in conjunction with a natural gas water heating unit.

According to the DOE, solar water and pool heating systems last much longer than standard gas water or pool heaters and can significantly reduce heating costs. Qualifying solar thermal measures and specifications are shown in Table 44 below.

Table 44 – Qualifying Measure Specifications

Residential Solar Water Heating System	Collectors must be OG-100 certified[1]
Non-Residential Solar Water Heating System	Collectors must be OG-100 certified[1]
Non-Residential Solar Pool Heating System	Collectors must be OG-100 certified[1]

[1] OG-100 certifications issued by the Solar Rating and Certification Corporation, a Southwest Gas approved Nationally Recognized Testing Laboratory, or an American National Standards Institute accredited certifying organization.

Rebate Amounts, Incremental Costs and Annual Savings

Southwest Gas determined the rebate amounts, incremental costs and therm savings by reviewing the best available information on incremental cost and energy savings of the measures. Rebate amounts were maintained at the minimum rebate levels needed to constitute a feasible marketing message to positively affect customer behavior and overall program cost-effectiveness. Estimated participation, rebate amounts, incremental costs and annual savings are provided in Table 45 below.

Table 45 – Estimated Participation, Rebate Amounts, Incremental Customer Costs and Annual Savings

Residential Solar Water Heating System	160	$15.00/ therm	$3,850	75	N/A
Non-Residential Solar Water Heating System	40	$15.00/ therm	$9,625	190	N/A
Non-Residential Solar Pool Heating System	15	$15.00/ therm	$60,000	20,000	N/A

[1] Rebate amounts are per first year annual therm savings as determined by the SRCC rating and are up to a maximum of 50 percent of the installed cost of the system.

Program Limitations

The following requirement applies for all measures:

- Measures must be purchased new, and may not be used or leased.

Target Audiences

Southwest Gas' primary target audience is residential and non-residential customers.

Southwest Gas' secondary target audience is trade allies including contractors, distributors, and manufacturers of solar thermal systems.

Budget

Southwest Gas proposes a total annual estimated budget for this program of $1 million. Table 46 below provides the budget details by category.

Table 46 – Total Estimated Budget

Description	Estimated Budget
Rebates	$594,000
Administration	$15,000
Outreach	$152,000
Delivery	$196,000
MV&E	$43,000
Total	**$1,000,000**

Cost-Effectiveness Test Results

Since this is an RET program, Southwest Gas is not required to demonstrate cost-effectiveness test results. Notwithstanding, participating customers will be able to offset some of their energy usage by generating their own, using renewable energy such as the sun. Energy savings will therefore occur as customers reduce their net energy usage. Southwest Gas believes that participating customers will be interested in ways to increase the energy efficiency of their homes to further reduce their energy usage and may participate in many of the Company's energy efficiency programs.

Human, Economic, and Societal Benefits

Programs that reduce the need for energy have an impact on the economics of energy production and delivery, as well as on the energy supply infrastructure. Reduced energy requirements slow the need for additional infrastructure and the resources required to produce and deliver energy.

Less energy production and use reduce the impact on Arizona's resources – land, water, air quality, and human health – encouraging a better quality of life for all consumers, as well as reducing Arizona's carbon footprint. By slowing the increasing demand for energy, the corresponding energy costs are also reduced. Consumers with lower energy bills have more disposable income, and spend a lower percentage of their income on energy. Reduced energy requirements resulting from renewable programs also provide quantifiable societal benefits in terms of pollution reduction, thereby creating a better quality of life for Arizonans.